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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,725	12/29/2003	Patricia Chapman Irwin	134756-1	6638

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EXAMINER	
JACKSON, MONIQUE R	
ART UNIT	**PAPER NUMBER**
1773	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/747,725	IRWIN ET AL.	
	Examiner	Art Unit	
	Monique R. Jackson	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-27 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 9, 12-15, 17-20, 24, 26 and 27 are rejected under 35 U.S.C. 102(a) and/or (e) as being anticipated by Igarashi et al (USPN 6,800,804.) Igarashi et al teach an epoxy resin composition used for encapsulating a semiconductor element mounted on a wiring circuit wherein the resin composition provides an encapsulating material with superior electric insulation properties (Abstract; Col. 2, lines 30-34.) The encapsulating material comprises A) an epoxy resin, B) a phenolic resin, C) a curing accelerator, and D) at least of (d1) conductive particles whose surfaces are subjected to coating treatment with an insulating inorganic material or (d2) magnetic particles whose surfaces are subjected to a coating treatment with an insulating inorganic material (Abstract; Col. 2, lines 40-53.) The particles have a maximum particle size of not larger than 200 microns, and an average particle size in the range of 0.5-50 microns (500nm-5000nm.) (Col. 4, lines 36-39) and include various metal powders or magnetic powders including hematite, magnetite, and various ferrites expressed by a general formula MFe_2O_4 or $MO_nFe_2O_3$ wherein M designates a bivalent metal particle including Mn, Co, Mi, Cu, Zn, Ba,

Mg, etc. (Col. 4, lines 19-30.) Igarashi et al teach examples utilizing Ni-Zn-based ferrite powder (Examples.) Igarashi et al further teach that the insulating inorganic material used in the surface treatment include silica fine powder or alumina fine powder having an average primary particle size of 1-1,000nm, preferably silica fine powder whose average primary particle size is 10-500nm (Col. 4, lines 44-55.) Igarashi et al teach that the amount of component D) is preferably set in a range of 10-90 weight% of the total weight of the resin composition (Col. 5, lines 10-13) and the content of C) is preferably 0.5-10 parts by weight per 100 parts of the phenolic resin (Col. 4, lines 8-11) (*hence overlapping the instantly claimed thermosetting weight percent.*) The composition may further contain a silane coupling agent such as the alkoxysilanes at Col. 6, lines 8-10, silicone compound stress reduction agents, and various additives (Col. 5, line 61-Col. 6, line 11; Examples.) Igarashi et al teach that the above composition is formed into an encapsulating layer by low-pressure transfer molding to a thickness in the range of 0.1-5mm, with examples post-hardened at a temperature of 175°C (Col. 7, line 8-Col. 8, line 2; Examples.) With respect to Claim 18, the Examiner notes that mica is not positively recited as the mineral filler considering Claim 17 recites mica in the alternative.

3. Claims 1, 3-13, 17-25 and 27 are rejected under 35 U.S.C. 102(a) and/or (e) as being anticipated by Ahmed et al (US 2003/0113461.) Ahmed et al teach an organopolysiloxane rubber composition which crosslinks in the presence of moisture to form a coating for the protection of composite high voltage electrodes (Abstract.) The composition comprises a) about 20 to about 60 weight percent of one or more polydiorganosiloxane fluids of the formula $R"O[(R)_2SiO]_nR'$ and n has an average value such that the viscosity is from about 10 to about 100,000cp at 25°C (*would inherently read upon the instantly claimed ranges*); b) from 0 to about

40 weight percent of a cyclo-organosiloxane, c) from 0 to 40 weight percent of an inorganic extending or non-reinforcing filler, d) from about 0.5 to about 15 weight percent of an amorphous SiO_2 reinforcing filler having a particle size range between 0.01 and 0.03 microns (i.e. between 10nm and 30nm), e) from about 1 to about 7 weight percent of a silane crosslinking agent, and f) from about 0.2 to about 3 weight percent of an adhesion promoter (Abstract; Paragraphs 0010-0022.) Ahmed et al teach that the composition can be coated on the surface of a high voltage composition insulator by spraying, brushing or dipping, and then cured, preferably at room temperature, though HTV silicone may be used, to produce a silicone elastomer layer having an average thickness of 250 to 1500 microns, more preferably 200 to 1000 microns (Paragraphs 0023-0024 and 0046.) With respect to claims 21-23, the Examiner takes the position that the resulting insulating layer taught by Ahmed et al would inherently possess the same electrical breakdown properties considering the layer is produced by the same materials as instantly claimed to a thickness as claimed.

4. Claims 1-4, 9-13, 17-20, and 24-27 are rejected under 35 U.S.C. 102(a), (b) and/or (e) as being anticipated by Nakashima et al (USPN 6,562,465 or WO99/55789.) Nakashima et al teach a coating liquid for forming a silica-based film having a low dielectric constant useful for coating various substrates such as on a silicone substrate or on a part between wiring layers of a multilayer wiring structure, by spin coating, spraying, dip coating, roll coating or transfer printing, followed by heating at 80 to 450°C, preferably 150 to 400°C to cure the coating (Abstract; Col. 13, lines 18-46; Col. 14, lines 10-15.) The coating comprises polysiloxazane having a number average molecular weight of 100 to 50,000 and fine spherical silica particles having an average particle size of 30 to 1000Å (3 to 100nm) (Abstract; Col. 5, lines 37-50; Col.

8, lines 28-32; Co. 9, lines 1-4 and 40-46.) Nakashima et al teach that the composition may further comprise alkoxysilane or chlorosilane compound and the mixing proportion of the fine silica particles to the polysiloxazane falls within the range of 0.1to 20, especially 0.5 to 10 (Col. 4; Col. 6; Col. 9, lines 50-67.) Nakashima et al further teach that the coating thickness depends upon the substrate to be coated but that the thickness of the silica-containing film generally ranges from about 1000 to 2500Å on a silicone substrate and from 3000 to 5000 Å between wiring layers of a multilayer wiring (Col. 13, lines 47-53.)

5. Claims 1-4, 9, 13, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Silver et al (USPN 4,317,001.) Silver et al teach an irradiation cross-linked polymeric insulated electric cable wherein the insulating layer has improved dielectric strength and is formed by irradiating a composition comprising a crosslinkable polymeric material having mixed therein carbon black having a particle size in the range from about 200 to 500 millimicrons (nanometers), in a content of about 10 to about 40% of the weight of the mixture, preferably 20 to 30wt% (Abstract; Col. 2, lines 4-6.) The crosslinkable polymeric material may be polyethylene, polyvinyl chloride, silicone rubber, styrene butadiene rubber or ethylene copolymers (Col. 2, lines 51-57.) Silver et al teach that the volume resistivity of the insulating layer is at least $1x10^{15}$ ohm-cm and may be applied to a conductor such as an electric cable (*wherein one skilled in the art would clearly envisage copper*; Col. 2, lines 14-19 and 60-61; Col. 3, lines 25-36.)

6. Claims 1, 3-13, 17-20, and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kodama et al (USPN 4,025,485.) Kodama et al teach an organopolysiloxane composition useful for producing electrically insulating materials wherein the composition comprises a 100

parts by weight of a mixture of dimethylpolysiloxane of the general formula (I) and an organohydrogenpolysiloxane, 5 to 50 parts by weight per 100 parts of the cured composition of a silica filler having an average particle diameter of 10 to 50nm, zinc carbonate, ceric oxide, and a platinum compound (Abstract; Col. 1, lines 27-68; Col. 3, lines 20-36.) The composition may be coated on various substrates such as glass fiber articles, glass cloths or glass mats to provide an electrically insulating layer (Col. 4, lines 25-36.) Kodama et al theca that the organopolysiloxane has a viscosity in the range from 200 to 100,000 centistokes at 25°C wherein viscosities exceeding this range would give poor working efficiency to the resulting compositions especially for production of electrically insulating materials in the step of coating or impregnating glass fibers (Col. 2, lines 1-9.) Kodama et al further teach that the silica particles may be treated with an organochlorosilane (Col. 3, lines 37-42; Examples.) Kodama et al teach that the composition may be cured by heating at 100 to 200°C (Col. 4, lines 19-22) and teach examples wherein the composition is applied by dip coating (Examples.)

7. Claims 1-3, 12-13, 24 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 06028929A (JP'929.) JP'929 teach an insulated wire comprising a wire or cable having an insulating electromagnetic shield layer 3 provided on a conductor 1 in between to insulating layers 2 and 4, wherein the shield layer is obtained by blending a thermosetting coating with magnetic superfine particles having a diameter of 0.001-0.1 microns (1-100nm), and curing it to produce the intermediate shield layer, and wherein this composite insulating coating can be applied to extremely narrow wire or cable in the field of electricity and electronics (*one skilled in the art would clearly envisage copper*; Abstract.)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

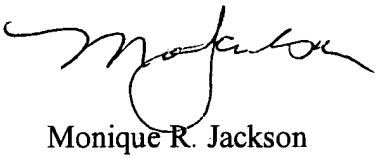
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi et al. The teachings of Igarashi et al are discussed above. Though Igarashi et al teach that various ferrites expressed by a general formula MFe_2O_4 or $MO_nFe_2O_3$ wherein M designates a bivalent metal particle including Mn, Co, Mi, Cu, Zn, Ba, Mg, etc. may be utilized in the coating composition with examples specifically utilizing Ni-Zn-based ferrite powder, Igarashi et al do not specifically teach that the ferrite particles have the formula as instantly claimed. However, one having ordinary skill in the art at the time of the invention would have been motivated to utilize a Ni-Zn ferrite powder as taught by Igarashi et al and to determine the optimum amounts of each metal to include in the ferrite powder wherein equal amounts of Ni and Zn would have been obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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July 11, 2005